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CIA/PIR-1002/61

September 1961

CENTRAL INTELLIGENCE AGENCY  
PHOTOGRAPHIC INTELLIGENCE REPORT

# EXPLOSIVES MANUFACTURING AND STORAGE FACILITIES KRASNOURALSK, USSR



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## PREFACE

This photographic intelligence report is intended to satisfy the combined requirements of the intelligence community with regard to explosives manufacturing and storage facilities at Krasnouralsk, USSR.

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## SUMMARY

The layout of the facilities described in this report conforms generally to that required in the production and storage of high explosives (HE).

[REDACTED]  
[REDACTED] Krasnouralsk is within easy reach of the Nizhnyaya Tura Atomic Energy Complex, some 18 nautical miles (nm) to the north.

The previously identified copper combine and chemical works were active at the time of the [REDACTED] photography, and certain portions of the old munition shop, designated in this report as a probable HE/munitions works, appear to have been expanded in recent years. New housing is identified adjacent to these facilities.

The two explosives storage facilities, identified for the first time on the [REDACTED] photography, consist of heavily revetted storage buildings. The older of these facilities contains eight buildings and is believed to have been the initial storage for the old munition shop. A large explosives storage facility, containing 133 buildings, is of newer construction and is believed to have been constructed to care for products from the probable HE/munitions works. Total square footage of usable floor space for the two storage facilities is estimated to be 620,400 square feet.

## INTRODUCTION

Krasnouralsk (58-18N 60-05E) is situated in the eastern foothills of the middle Ural mountains, and is located approximately 18 nm south-southeast of the Nizhnyaya Tura Atomic Energy Complex, (58-37N 59-49E). Roads connect Krasnouralsk with Verkhnyaya Tura and from there continue north in the direction of Nizhnyaya Tura. Roads to the west and south lead to Kushva and Sverdlovsk. There is rail service from Krasnouralsk westerly via Verkhnyaya Tura to Kushva, southward to Verkh-

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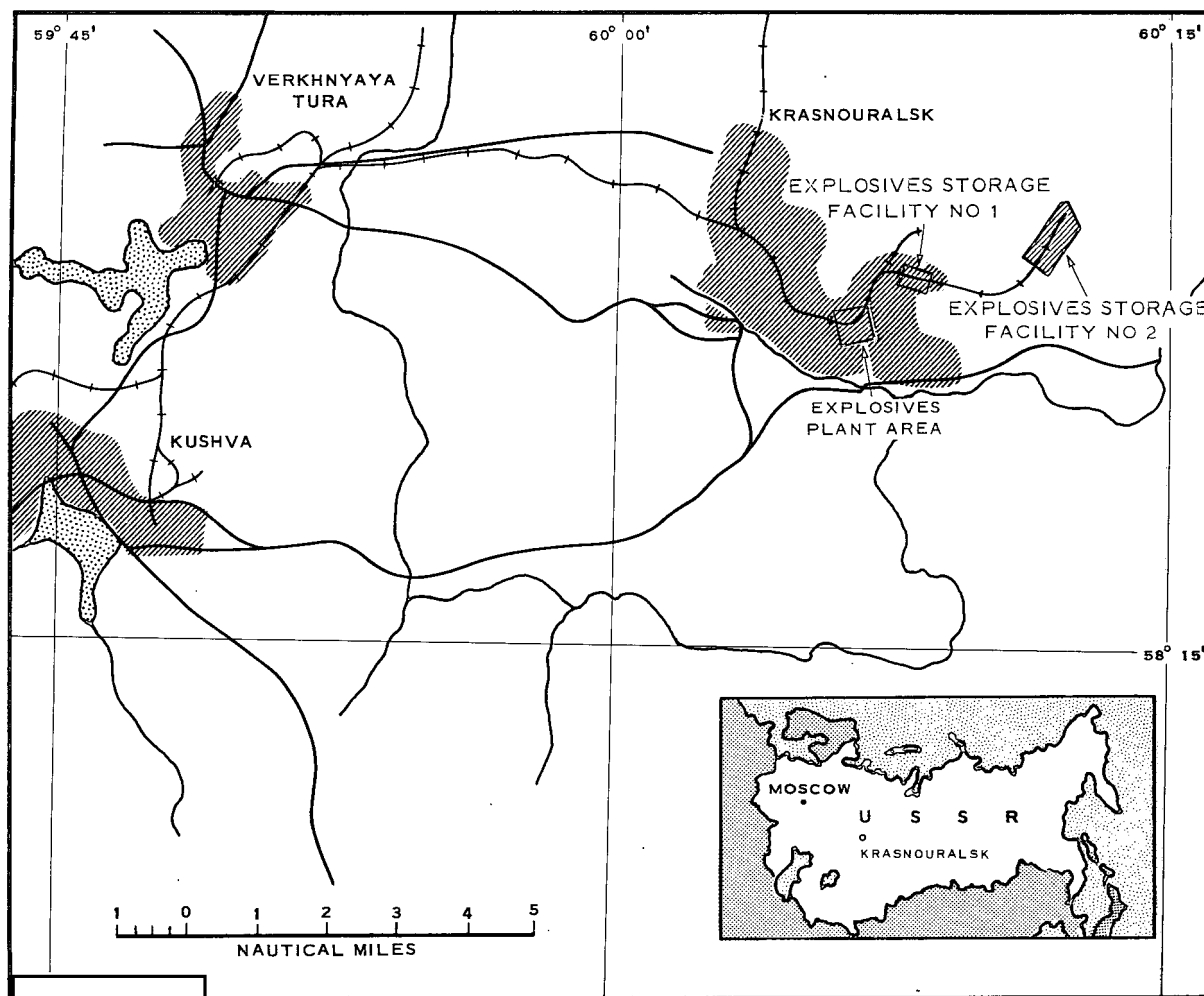


FIGURE 1. LOCATION MAP.

nyaya Salda and Nizhniy Tagil, and northward toward Nizhnyaya Tura and Serov (Figure 1).

Electrical power is probably supplied to the Krasnouralsk area from Nizhnyaya Tura to the north and from Kirovgrad, approximately 100 km to the south. Although portions of power-line clearings can be identified from the photography, the relatively poor quality of the photography does not permit a detailed electrical power study. Krasnouralsk, however, is within the Ural electric power grid, and for this reason it is believed that sufficient power is available for extensive manufacturing facilities.

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The previously identified copper combine, the chemical works, and the munition shop [ ] respectively) are also seen on the photography of [ ] (Figure 2). The two explosives storage facilities are identified from the [ ] photography. These storage facilities are rail and road served from the probable HE/munitions works and Krasnouralsk city. In addition, support-type facilities and pit mining are visible on the photography. Mining activity is also observed at Kushva, to the west.

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These facilities, identified from the photography, are described in this report in as much detail as the poor-quality (partially cloud covered and oblique) photography permits. Dimensions contained herein, therefore, are to be considered within plus or minus 5 feet under 100 feet and only approximate above 100 feet.

The explosives manufacturing and storage facilities seen on aerial photography of [ ] include a copper combine and chemical works, a probable HE/munitions works, two explosives storage facilities, and support facilities. These facilities surround the city of Krasnouralsk (Figure 2).

#### GENERAL DISCUSSION

The copper combine and chemical works (Figure 2) appear rather old. No new construction, except for housing, was observed in this area. The facilities are rail and road served. The chemical works is an integral part of the copper combine, and was reported in 1959 as the Krasnouralsk Chemical Plant No 758. 1/ Such an arrangement of copper/chemical production facilities suggests processing of finished copper as well as processing of copper waste materials for such end products as sulfuric acid, TNT acids, oil of vitriol, accumulator acid, and perhaps superphosphates. The location of the probable HE/munitions works at Krasnouralsk suggests that additional end products of the copper/chemical

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facilities probably include other basic chemicals required for HE production. The copper combine is believed to have adequate facilities for the roasting, smelting, and converting of copper ores. Pit mining, probably copper mining, is scattered throughout the area.

A few of the road- and rail-served revetted structures in the probable HE/munitions works area appear to be of more recent construction than the older copper/chemical works. It is felt that the addition of these structures is the direct result of an added function of HE processing. Unidentified support-type facilities are located adjacent to the probable HE/munitions works (Figure 2).

New housing, as indicated in Figure 2, is believed to be indicative of expanded activity in Krasnouralsk.

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Neither of the two road- and rail-served explosive storage facilities was reported on [ ] maps; 2/ however, the smaller facility, called Explosives Storage Facility No 1 in this report, appears to have been constructed at the same time as the old munition shop, sometime prior to 1951. The heavily secured and larger Explosives Storage Facility No 2, which contains 133 revetted structures, was reported in 1959 to be a possible ammunition storage depot 1/, and is of more recent construction. Further study of the general characteristics of the storage structures, road access pattern, and layout leads to the conclusion that this facility better fits the role of explosives storage.

#### Probable HE/Munitions Works

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The nucleus of this installation was known to be in Krasnouralsk in 1951, but had not been located. 2/ It carries, however, the Target Number [ ] and a 1951 map calls it the Krasnouralsk Munition Shop. 2/ The expanded facilities as viewed on the [ ] photography are more appropriately called probable HE/munitions works. It is located at approximately 58-20N 60-05E.

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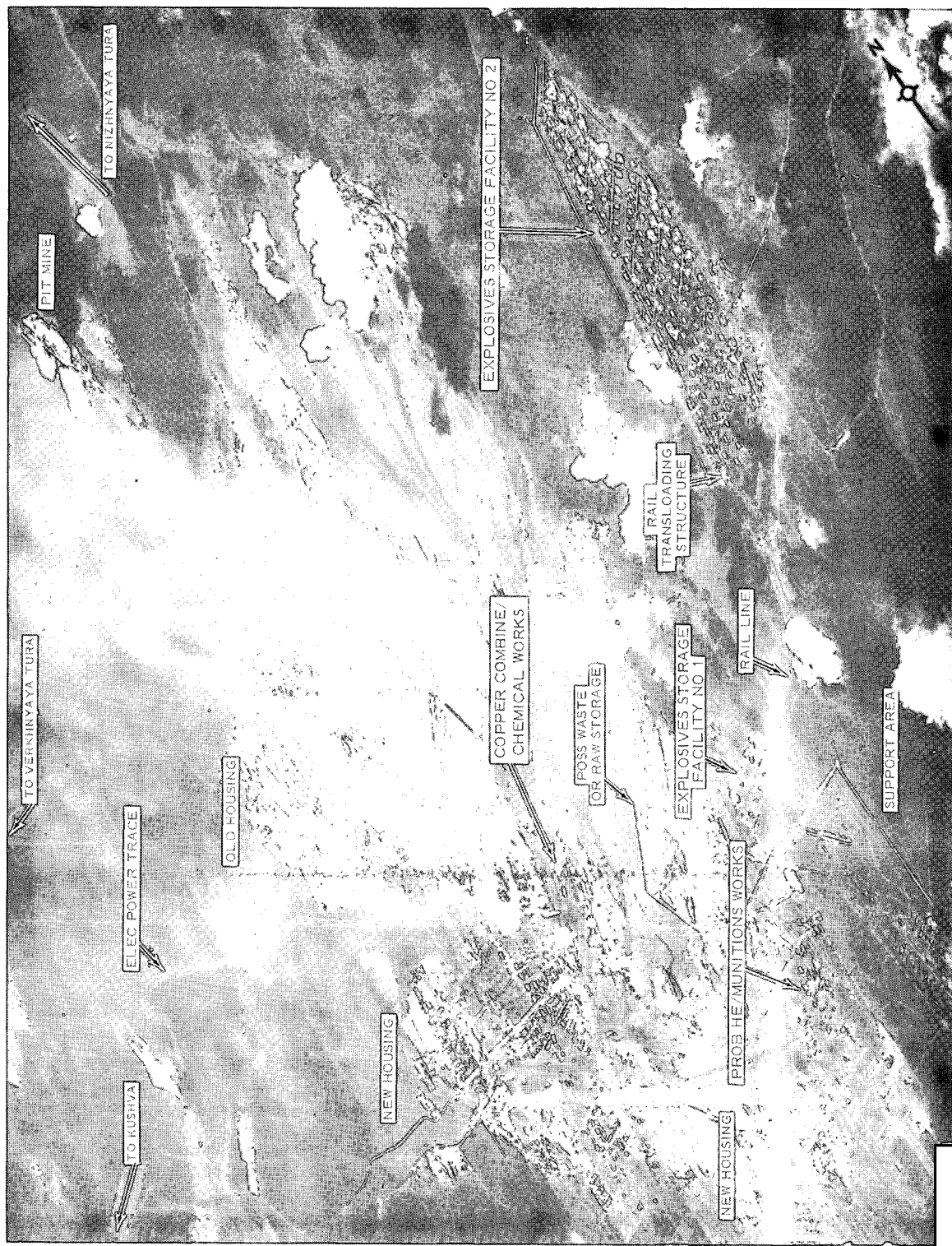


FIGURE 2. EXPLOSIVES MANUFACTURING AND STORAGE FACILITIES, KRASNOURALSK, USSR.

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The facilities are rail and road served from the copper combine and chemical works (Figures 2 and 3). Rail connects the installation with explosives storage facilities No 1 and 2 to the north (Figure 2). A solid fence secures the installation.

There are some areas in the installation that can be partially described. Their general overall layout and size are illustrated in Figure 3. These various-sized revetted structures, possible covered walkways and conveyers, and their pattern within the installation, are typical of structures common to the explosives industry. The separate facilities and structures are arranged for internal protection, and several of the structures have blast traps and offsets (revetments/barricades) to limit damage in case of accidental detonations.

Although the specific product or products of the works cannot be ascertained from the photography, the various-sized revetted structures, covered passageways, the security, and the associated storage give the appearance of explosives production. It is possible that certain HE components such as detonators and initiators, as well as HE charges, are produced here. The rail-served revetted structures (Figure 3) specifically suggest HE manufacturing and processing in addition to the final assembly of HE prior to shipment or storage.

#### Explosives Storage Facility No 1

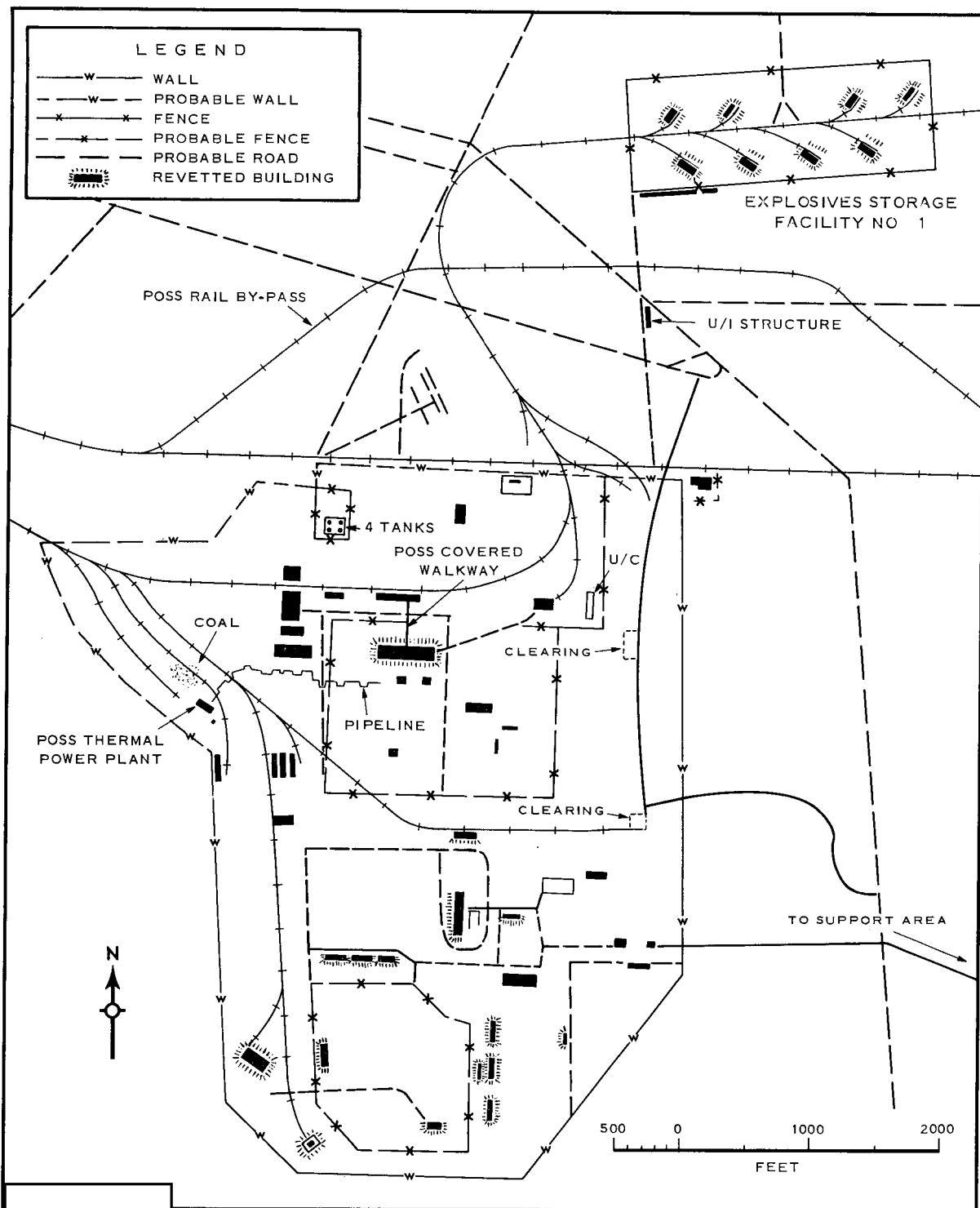
This facility is probably double fenced and is rail and road served from the probable HE/munitions works. A rail spur extends to each of the eight storage structures, and the through-rail line extends through the facility to a rail transloading point in the larger Explosives Storage Facility No 2 (Figure 2). Eight rail-served, gable-roofed, revetted buildings and a possible explosives reject area, located outside the security fence, make up the facility (Figures 2 and 4). Detailed layout with dimensions is contained in Figure 3 and a concept of a typical explosives storage structure is presented in Figure 4.

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FIGURE 3. PROBABLE HE/MUNITIONS WORKS AND EXPLOSIVES STORAGE FACILITY NO 1. Drawing shows overall layout of area. Individual facilities cannot be identified.

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The eight revetted structures could serve as a final HE preparation area prior to storage in Explosives Storage Facility No 2, or serve as the preparation and transfer point for HE charges to be shipped rather than stored. The facility could also have served the old munition shop and now be serving as a holding area. The presence, however, of the possible reject area would somewhat discount this latter possibility. Due to its closeness and rail connection to the probable HE/munitions works and the large Explosives Storage Facility No 2, it is believed that these eight revetted buildings play an important role in the flow pattern of the explosives production, processing, shipment, and storage.

Total usable square footage of floor space of this facility is estimated to be 35,200 square feet.

#### Explosives Storage Facility No 2

This impressive facility consists of 133 road-served similarly constructed, revetted, gable-roofed, explosives storage structures. It is possible that an additional storage structure is located in the facility, however, positive identification cannot be made due to the poor quality of the photography.

Rail connects a rail transloading structure within the facility, Figure 2, with Explosives Storage Facility No 1. The facility is also road served from the probable HE/munitions works and the support facilities. Each of the 133 structures is individually road served. Figure 4 is a concept of the type of explosives storage structure.

The facility is heavily secured in a wooded section with a probable triple fence, security road, and checkpoints and guard points along its perimeter.

Each of the explosives storage structures is revetted by four-sided blast walls with an opening for the access road. The four-sided blast protection is made up of a U-shaped revetment plus a barricade adjacent to the access road. All of the 133 identified storage structures are uni-

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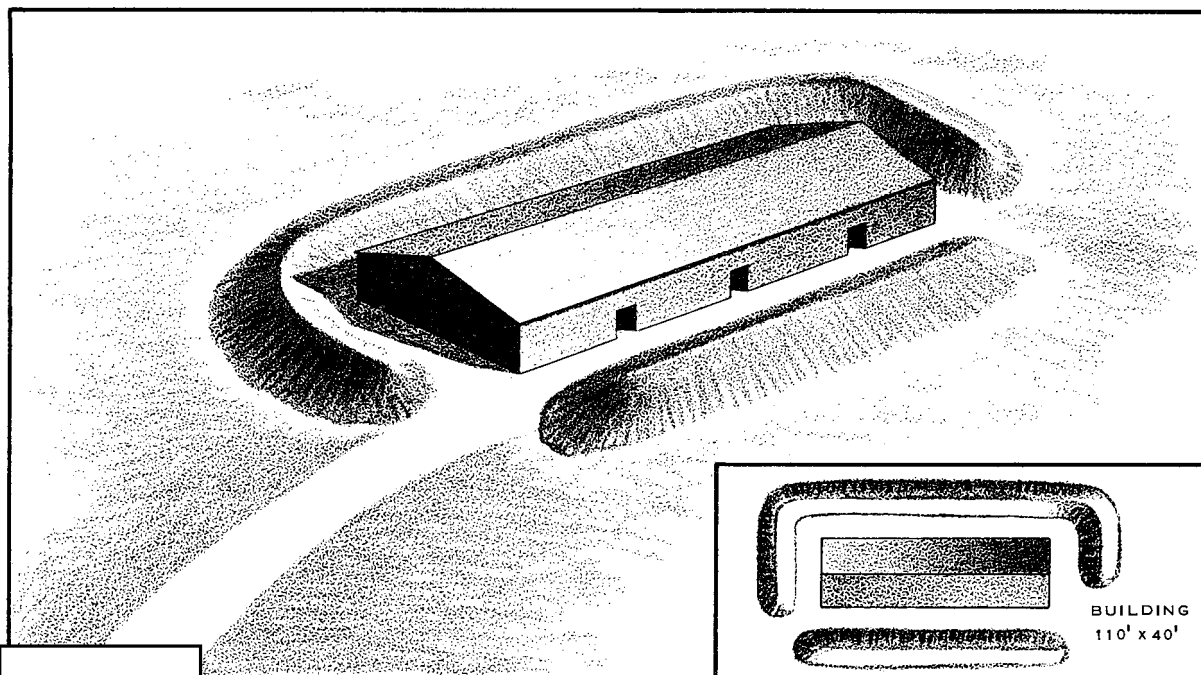


FIGURE 4. CONCEPT OF THE STORAGE STRUCTURE IN EXPLOSIVES STORAGE FACILITY NO 2. Although the nature of the photography precludes presentation of a concept of storage structures at the Explosives Storage Facility No 1, it is believed that they are similar to those found in facility No 2.

form in configuration and size (Figure 4), and are orderly arranged within the site for blast protection and blasts from external influences. Total square footage of usable floor space is estimated to be 585,200 square feet.

### Copper Combine/Chemical Works

The poor-quality photography of [ ] identifies the copper combine/chemical works, formerly called the Krasnouralsk Copper Works [ ]. Although positive identification cannot be made of the structures, smoke from the probable smelting furnaces is observed. Structures possibly used for ore concentration, filtering, roasting, and chemical processing, and warehouses are observed. The facility is rail served and rail spurs connect it to the probable HE/munitions works.

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Support Facilities

New housing and unidentified support facilities are located in the city of Krasnouralsk. These facilities are annotated on Figure 2. The new housing is believed to have been constructed at about the same time as Explosives Storage Facility No 2 and the expansion of the probable HE/munitions works.

## REFERENCES

## PHOTOGRAPHY

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## MAPS and CHARTS

1. SAC. US Air Target Chart, Series 200, Sheet 0156-13A, 2d ed, Oct 59, scale 1:200,000 (S)
2. Air. US Target Complex Chart, Series 25, Sheet 0165-9943-25A, interim ed, Jan 51, scale 1:250,000 (S)  
ACIC. WAC 156, 1st classified ed, Dec 59, scale 1:1,000,000 (C)  
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## REQUIREMENT

CIA. OSI/R-43/61

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